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Regulatory Theory and Deposit Insurance Reform

R. Mark Williamson

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REGULATORY THEORY AND DEPOSIT INSURANCE REFORM

R. MARK WILLIAMSON¹

I.	THE ROLE OF BANKS IN THE ECONOMY: HOW THEY WORK UNDER PERFECT MARKET CONDITIONS	107
A.	<i>General Functions Which Banks Serve</i>	107
B.	<i>A Closer Examination of the Risk Assumption Function</i>	109
II.	RATIONALES FOR GOVERNMENT REGULATION	111
A.	<i>The Bank Run Rationale</i>	112
B.	<i>Inadequate Information: A Mainstream Theory</i>	114
1.	Restating the Information Problem	114
2.	Regulatory Responses to Information Barriers: A Closer Look	116
III.	COSTS OF DEPOSIT INSURANCE: INEFFICIENT ALLOCATION OF RISK ASSUMPTION	117
IV.	COPING WITH THE COSTS OF DEPOSIT INSURANCE	121
A.	<i>Hands-On Theory</i>	121
B.	<i>Variable Premium Theory</i>	122
C.	<i>Market-Based Portfolio Monitoring Theory</i>	123
D.	<i>Regulatory Restraint Theory</i>	124
E.	<i>Segregation Theory</i>	127
V.	CONCLUSION: A COMPREHENSIVE PROPOSAL FOR REFORM	129

In the United States, deposit insurance is an integral component of bank² regulation. The Glass-Steagall Act³ introduced federal deposit insurance in the wake of the 1929-33 banking crisis; that same act also separated commercial

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²In this article, the term "bank" refers to both banks and thrifts ("savings and loans" or "S & Ls"). Generally, banks concentrate their investments in long-term commercial loans while thrifts concentrate theirs in home mortgages. Thrift regulation and deposit insurance are similar to that of banks, and the analysis in this paper applies to both types of institutions. For a symposium on the much publicized savings and loan crisis and the resulting deposit insurance catastrophe, see Symposium, *Savings & Loan Crisis: Lessons and a Look Ahead*, 2 STAN. L. & POL'Y REV. 21 (1990).

³Banking Act of 1933, ch. 89, 48 Stat. 162 (codified as amended throughout 12 U.S.C. chs. 2, 3, 6 (1988)).

banking from securities-related activities and introduced other government regulation. Since deposit insurance changes the incentives of banks and their depositors, while simultaneously placing the associated risk on the government, it is no surprise that deposit insurance has been coupled with "hands-on" bank regulation from its inception.⁴

Of course, deposit insurance is only part of a broader scheme of bank regulation. Bank chartering, on both the state and national level, is premised on a theory of excess competition.⁵ Once entry is allowed, banks continue to be supervised by regulators and are subject to capitalization requirements, investment/activity restrictions, and affiliation/ownership restrictions.⁶ To further complicate matters, the United States has one of the most labyrinthine regulatory systems imaginable: the Comptroller of the Currency supervises national banks; the Federal Reserve supervises its member banks (all national banks and some state banks); the Federal Deposit Insurance Corporation has the right to terminate insurance (which is required for national banks and Federal Reserve member banks, and which is generally required for state banks under state law⁷) and certain other rights with respect to receivership proceedings; and still more regulatory agencies exist for state banks and for thrifts.⁸

The purpose of this article, however, is not to summarize the maze of federal and state banking regulation. Instead, recognizing that deposit insurance is a centerpiece of the overall regulatory scheme to which any financial institution in the United States is subject, this article is primarily concerned with subjecting this form of bank regulation to analysis based upon general principles of

⁴See, e.g., Gerald P. O'Driscoll, Jr., *Deposit Insurance in Theory and Practice*, in *THE FINANCIAL SERVICES REVOLUTION: POLICY DIRECTIONS FOR THE FUTURE* at 165, 167 (Catherine England & Thomas Huertas eds. 1988).

⁵Excess competition theory claims to identify situations in which normal marketplace competition leads to undesired results, and proposes to allow entry in those situations only on a showing of "need." It differs from natural monopoly theory, which is considerably less controversial, in that the situations so identified need not involve the economies of scale associated with natural monopolies. See generally STEPHEN G. BREYER, *REGULATION AND ITS REFORM* 29-32 (1982). In banking regulation, excess competition theory is reflected in the chartering process, which requires a showing that the proposed bank's market needs another entrant, even if the proposed bank meets all other requirements relating to capitalization, management, and so forth. See, e.g., 12 U.S.C. §§ 26, 27 (1988); *Smith v. Smith*, 431 F. Supp. 898 (W.D. Okla. 1977); WIS. STAT. § 221.01(5) (1992).

⁶See generally Michael Klausner, *An Economic Analysis of Bank Regulatory Reform: The Financial Institutions Safety and Consumer Choice Act of 1991*, 69 WASH. U.L. Q. 695, 699-705, 713-14 (1991).

⁷New federal legislation will ultimately require all state banks to be federally insured. FDIC Improvement Act of 1991, § 151(a), 105 Stat. 2236, 2282 (codified at 12 U.S.C. § 1811(e)); see H.R. REP. NO. 330, 102d Cong., 1st Sess. 105, 125, reprinted in 1991 U.S.C.A.N. 1901, 1918, 1938.

⁸See generally Klausner, *supra* note 6, at 695, 698-718.

regulatory theory. This article is less concerned with the details of banking law than it is with using regulatory theory to shape policy guidelines for the coming process of deposit insurance reform.⁹

First, this article briefly examines the role of banks in an economy where informational and other market conditions are perfect and where there is no regulation of any kind; it concludes that under such unrealistic conditions banks could function efficiently without regulation. It then relaxes the assumption of perfect conditions and examines market-failure rationales for banking regulation focusing on regulation designed around a system of deposit insurance. In particular, this article attempts to articulate an information failure theory to justify government regulation of banking.

Next, the article focuses on the regulatory costs of deposit insurance: specifically, its adverse effects on the behavior of banks and depositors. The article concludes that deposit insurance encourages banks to engage in inefficient and risky behavior, that is, to assume risk even where the disutility from doing so is greater than the risk premium earned (except for the underpriced deposit insurance subsidy available from the government).

Section IV of this article examines proposals to reform federal deposit insurance in the context of a new framework that broadly groups proposals under five general theories of deposit insurance reform: "hands-on," "variable premium," "market-based portfolio monitoring," "regulatory restraint," and "segregation." My thesis is that, in general, each theory has something beneficial to offer, and that ultimately, the different theories must be viewed as complements to one another which can be worked into a comprehensive reform proposal. The article concludes by offering a reform proposal which calls for a political choice between retaining the overall architecture of the existing deposit insurance system or abandoning that architecture in favor of segregating or nationalizing banks which insure deposits. Finally, using the theoretical framework developed in Section IV, the article makes suggestions for tailoring reform to the above described political choices.

I. THE ROLE OF BANKS IN THE ECONOMY: HOW THEY WORK UNDER PERFECT MARKET CONDITIONS

A. *General Functions Which Banks Serve*

A bank is a corporation into which shareholders invest money; the corporation then proceeds to borrow from depositors and lend to borrowers. Banks thus serve an important "go-between" function by "transforming the denomination, maturity (or term to repricing), credit quality, and so forth of the securities sold to lenders (i.e. depositors) and bought from borrowers (i.e. commercial borrowers, home mortgagors, and so forth) and from assuming the

⁹For discussions of the deposit insurance crisis and the extent thereof, see John L. Douglas, *Deposit Insurance Reform*, 27 WAKE FOREST L. REV. 11 (1992); Charles E. Schumer & J. Brian Graham, *The Unfinished Business of FIRREA*, 2 STAN. L. & POL'Y REV. 68 (1990).

associated risks."¹⁰ In other words, a bank's depositors may want to buy several thousand dollars worth of short-term, low-risk debt with collateral services¹¹ in the form of an ordinary bank account, while the bank's borrowers may want to sell several hundred thousand dollars worth of riskier long-term commercial debt.

Banks assume some degree of risk incident to "transforming" maturity: for example, if the bank sells demand¹² accounts to make 30-year fixed-rate loans and interest rates rise, depositors will demand an interest hike or withdraw their funds, while borrowers will be entitled to keep paying under the original terms of their loans. The focus of this article, however, is on the more significant risk assumption which occurs when depositors want a lower risk level than that represented by the bank's portfolio of loans. Banks can reduce the risk seen by depositors by injecting shareholder capital between depositors and borrowers and writing deposit accounts as contractual obligations which are not contingent upon actual portfolio performance. Thus, if the portfolio performs poorly, depositors are still paid to the extent shareholder capital is available for that purpose.¹³

Under perfect market conditions, banks could even go so far as to make depositor accounts completely risk-free by injecting a layer of shareholder capital equal to the amount of depositor claims.¹⁴ However, doing this is the functional equivalent of bank shareholders investing in the bank's portfolio for their own account and depositors simply giving their money to the bank's shareholders for safekeeping. Therefore, if depositors truly desire zero risk, borrowers could just as easily borrow directly from the bank's shareholders and depositors could simply place their funds with an institution that specializes in the safekeeping of money and offers the collateral services

¹⁰George C. Kaufman, *The Truth About Bank Runs*, in *THE FINANCIAL SERVICES REVOLUTION* at 9, 10 (Catherine England & Thomas Huertas eds. 1988).

¹¹I use the term "collateral services" to describe check-writing privileges and other services which banks offer in connection with deposit accounts. Throughout this article, I refer to term, denomination, and collateral services as being the features of bank deposits which prevent them from being fungible with other debt.

¹²"Demand" debt is debt which can be called for payment at any time by the lender (the depositor in the case of a bank deposit). Such debt need not carry a corresponding right of the borrower to pay at any time. Thus, the demand feature is not simply a function of term, but is actually a call option held by the lender.

¹³In this respect, a depositor is like any other ordinary unsecured creditor, who can seek claim satisfaction not only out of assets which the debtor purchased with loan proceeds but also out of any other unencumbered, nonexempt assets of the debtor. The analogy between bank depositors and other unsecured creditors is further developed *infra* at note 36.

¹⁴As the text suggests, this is true only under unrealistically ideal conditions: where depositors have perfect information about shareholder capitalization, where depositors can be certain that this capital will not be withdrawn, where there will be no transaction costs associated with settlement of depositor claims, and so forth. The simplification in the text is for illustration only.

presently associated with bank deposits; there need be no connection between the two. Banks serve an important risk-assuming function, however, so long as depositors desire a risk level that is greater than zero (with its correspondingly higher return) but lower than the risk represented by the ultimate users of depositors' funds.

B. A Closer Examination of the Risk Assumption Function

The risk premium paid by the banks' borrowers will inure to the banks rather than their depositors to the extent banks assume risk incident to their operations.¹⁵ In this regard, then, the risk-assumption aspect of banking appears quite similar to any other type of leveraged investment, such as issuing junk bonds to make speculative equity investments.

The principle of leveraged investment can be illustrated by a grossly oversimplified example. Assume there is an investor (the "leveragor") to whom any loan would be completely risk-free; also assume that all actors are completely risk-neutral; finally, ignore the existence of all transaction costs. Suppose the leveragor has the opportunity to make an investment which will pay off instantaneously¹⁶ but which has three possible outcomes, each with a one-third chance of occurring. The investment may pay \$2,000, or \$1,000, or it may pay nothing. The investment has an expected value of \$1,000,¹⁷ and since the market is risk-neutral, investors should price the investment at \$1,000.

Suppose the leveragor now borrows \$1,000 by selling a promise to immediately repay \$1,000 regardless of the outcome of the investment. Since all investors are risk-neutral and the debt matures instantaneously, and since debt sold by this particular leveragor is completely risk-free, this promise will sell for \$1,000. Then suppose the leveragor uses this \$1,000 to buy the investment being leveraged. Two possible outcomes must be computed: one for the leveragor and one for the investor who lends the \$1,000 to the leveragor (the "lender"). The lender will receive \$1,000 regardless of how the investment pays. The leveragor will lose \$1,000 if the investment pays nothing (because of the payment on the debt to the lender), or break even if the investment pays \$1,000, or make a profit of \$1,000 if the investment pays \$2,000. Consequently, the lender sees an expected value of \$1,000 while the leveragor sees an expected value of zero, but the lender's investment is risk-free while the leveragor's investment is not.¹⁸

¹⁵Banks also profit by charging for the services they provide as intermediaries between depositors and borrowers and for collateral services such as check-writing privileges.

¹⁶This simplifies the illustration by eliminating the need to consider the time-value aspect of the investment.

¹⁷Expected value is computed by multiplying each possible outcome by the probability of its occurring and adding the results: (1/3 times \$2,000) plus (1/3 times \$1,000) plus (1/3 times 0) equals \$1,000.

¹⁸As pointed out earlier, this oversimplified illustration of leverage is likely to be of little utility in the real world, even without relaxing the assumptions in the hypothetical.

In reality, the market will reflect that most investors are risk-averse and charge a premium for assuming risk. Thus, each unit of this particular investment sells for less than \$1,000, while the lender still pays \$1,000 for the leveragor's debt as long as it is completely risk-free. The difference reflects the risk premium earned by the risk-assuming leveragor. Leveragors will only assume risk where the risk premium is greater than their individual disutility from assuming that risk, while lenders will prefer this arrangement to a direct investment only where their individual utility from avoiding risk is greater than the sacrificed risk premium.¹⁹ Thus, both the leveragor and lender can profit from the proper risk allocation where the leveragor is less risk-averse than the lender.

As the leveragor becomes more judgment-proof or contracts for limited liability, two phenomena occur. First, risk shifts from the leveragor to the lender, who expects an appropriate risk premium. Second, "expected value" is transferred to the leveragor, so that even a risk-neutral lender will no longer pay \$1,000 for the leveragor's promise since that is no longer its expected value, causing the "debt" to look more and more like equity.²⁰ Still, as long as the leveragor has collectable personal liability²¹ of greater than zero, the leveragor continues to be assuming greater risk than the lender and greater risk than with no leverage at all.

Investors usually leverage for two reasons. First, leverage is a method of increasing risk to the level desired by a particular investor. Although under perfect conditions risk premiums should move to an equilibrium at which the market price completely compensates for any level of risk, individuals have differing levels of risk aversion and will prefer to invest at different risk levels. The possibility of leveraging almost any investment available in the marketplace increases the number of real investment alternatives available,

For the leveragor's debt to be truly risk free, the leveragor must have \$1,000 of his or her own assets unconditionally available to repay the lender. Thus, the arrangement is functionally indistinguishable from a direct investment by the leveragor, with the lender simply depositing the \$1,000 loan with the leveragor for safekeeping. *See supra* text accompanying note 14.

¹⁹Individual risk preferences will vary greatly, even in a perfect market where risk premiums are perfectly matched to market risk preferences.

²⁰To illustrate, assume that the leveragor will not repay the \$1,000 debt except out of the proceeds of the investment. Now if the investment pays zero, both leveragor and lender will receive nothing. If the investment pays \$1,000, the leveragor will repay the \$1,000 and keep nothing. If the investment pays \$2,000, the leveragor will pay \$1,000 and keep \$1,000. This yields an expected value of $\$1,000/3$ to the leveragor and $\$2,000/3$ to the lender, so that even a risk-neutral lender will pay considerably less than \$1,000 for leveragor's promise. Instead of discounting the promise, the lender might demand an entitlement to \$2,000 should the investment pay \$2,000. In that case, the lender would in effect be investing directly without leverage, and the "leveragor" would merely be an intermediary.

²¹This would include any personal assets that the leveragor places inside a limited-liability entity.

and thus, enables investors to more efficiently implement their true preferences.²² Second, where an investor has discovered information not yet reflected in market prices, leverage is a way to maximize the gain from trading on this information. In other words, an investor, who discovers that in the above situation the probabilities given are erroneous and that each unit of the investment actually has a 100 percent chance of paying \$2,000, should borrow as much as possible to the extent units of the investment are available.²³

Banks typically leverage for the first reason: bank leverage generally reflects the fact that banks are serving their intermediary function by assuming some portfolio risk so that depositor risk is lowered to the level desired by depositors. Thus, banks serve an important economic function by transferring risk (and the associated risk premium) from more risk-averse depositors to less risk-averse bank shareholders.²⁴ But banks, seeking to maximize profits, will respond to perverse incentives to over-leverage as would any other investor. Therefore, to the extent government regulation introduces such incentives, inefficiency will result. Accordingly, government regulation should be avoided except where a sound theoretical justification for regulation exists, and regulatory designers must watch for and counteract any perverse incentives which regulation creates.

II. RATIONALES FOR GOVERNMENT REGULATION

As indicated above, sound regulatory theory requires a showing that banks cannot function effectively in an unregulated environment before regulation is imposed. Moreover, this article is specifically concerned with justifying a regulatory scheme designed around deposit insurance. Traditionally, the rationale for deposit insurance has been that banks are peculiarly susceptible to "runs," and that the role of banks in the economy is such that runs are particularly devastating to the macro-economy. While this article contends that the traditional justification has not been well-articulated and is based on inherently unsound assumptions, my central purpose is not to debunk or indict the traditional view but rather to rearticulate it in a simpler and more coherent

²²In essence, net social efficiency is increased because risk is shifted from the more risk-averse lender to the less risk-averse leveraging investor, just as shifting risk from a risk-averse individual to a less risk-averse insurance company would create efficiency gains. In reality, however, efficiency gains from insurance probably result less from the fact that the insurer is necessarily less risk-averse than the insured than from the fact that the insurer sees less actual risk because of statistical convergence to the mean resulting from large numbers. *See generally* ROBERT COOTER & THOMAS ULEN, *LAW AND ECONOMICS* 65 & n.22 (1988).

²³This would seem to be at odds with the assumption of perfect market conditions, but in fact, such conditions result (or nearly result) only because of market professionals who engage in exactly such behavior.

²⁴If shareholders are so risk-averse that they desire zero risk, banks can transfer all risk to shareholders, thereby serving as institutions that specialize in the safekeeping of funds and offer collateral services in relation to depositors. *See supra* text accompanying note 14.

form. Thus, the traditional view will be examined before my own theory is offered.

A. *The Bank Run Rationale*

The traditional rationale for insurance-based regulation focuses on bank runs.²⁵ Bank runs may occur because debt securities sold by financial institutions--deposits--are either demand or very short term. This enables depositors to withdraw their funds when they believe that deposits are not paying a sufficient rate of return (or within a very short time thereafter). Further, if the rate of return is indeed insufficient, the first depositors to arrive at the bank and withdraw deposited funds, by receiving their full claim without discount for the low rate of return, are receiving more than their claim is worth, so that later depositors will receive correspondingly less. Thus, there is a strong incentive to be one of the first depositors to get to the bank and withdraw funds, and a run results.²⁶

Bank runs may be ordinary market corrective forces if they are based on accurate information that suggests rational depositors should withdraw their funds, taking into consideration the rate of return that the deposit pays. In such a case, "the run is the result of the insolvency, not the cause."²⁷ That is, a solvent bank could thwart the run by increasing the return paid on deposits to a level appropriate to the riskiness of its portfolio. Alternatively, the bank could decrease depositor risk to an appropriate level by accommodating the run: As portfolio assets are liquidated and used to retire outstanding debt to depositors, the bank's debt-to-equity ratio will drop and depositors who have not withdrawn funds will see a decreased level of risk; eventually this risk will be appropriate to the return the remaining depositors are receiving. If all assets are liquidated before this point is reached, then the bank's assets are insufficient to cover its liabilities--that is, the bank is insolvent.²⁸ This is what George

²⁵Kenneth E. Scott, *Deposit Insurance and Bank Regulation: The Policy Choices*, 44 BUS. LAW. 907, 910 (1989); see also Kaufman, *supra* note 10; Bert Ely, *The Big Bust: The 1930-33 Banking Collapse--Its Causes, Its Lessons, in THE FINANCIAL SERVICES REVOLUTION: POLICY DIRECTION FOR THE FUTURE* at 41 (Catherine England & Thomas Huertas eds. 1988).

²⁶See Kaufman, *supra* note 10, at 10-11.

²⁷*Id.* at 13. On the other hand, runs at insolvent banks would result in wealth transfers from "slow" depositors to "fast" ones, since the first depositors to the bank receive full payment while later depositors receive nothing. These wealth transfers might be seen as unfair. Further, even if depositors were subject to bankruptcy-type preference law, see 11 U.S.C. § 547 (1988), the power of a trustee to recover so many small payments scattered among so many "shallow pockets" who have probably consumed the proceeds would be virtually worthless. To the extent deposit insurance can be justified on other grounds, an incidental effect would be equitable treatment of all depositors, fast and slow alike.

²⁸Of course, this ignores transactional costs associated with liquidating assets, but if those are too great, a solvent bank could simply pursue the alternative of increasing the return paid on deposits so as to thwart the run.

Kaufman means when he says that runs result from insolvency rather than vice versa.²⁹

Because of post-Depression uneasiness, the traditional bank run rationale for deposit insurance may have been premised on the proposition that even runs on insolvent banks are harmful. Alternatively, the rationale may have been premised on perceived informational defects in the financial services market indicating that most runs were not based on accurate perceptions of a bank's financial condition. In particular, Congress may have been reacting to the likelihood that even runs based on accurate information might cause panic which in turn could trigger runs based on inaccurate information.

The anti-regulatory response to the argument that bank runs may not be based on accurate information has been to acknowledge that runs based on inaccurate information could theoretically create transactional costs because of the need to liquidate assets, with further transactional costs imposed on society at large because liquidation takes place at "fire sale"³⁰ prices which do not move resources directly to the highest-valuing user.³¹ However, banks operate through a system of correspondent banks and central banks with the government ultimately being the lender of last resort; other banks and the government are likely to have better information than depositors. Thus, assuming that running depositors place withdrawn funds in other bank accounts or government securities,³² as opposed to stuffing the funds in mattresses,³³ healthy banks or the government can make deposits in, advance

²⁹ See *supra* note 27 and accompanying text.

³⁰ A fire sale is any sort of forced sale which brings a greatly depressed sales price. A sheriff's auction is the classic example of a fire sale.

³¹ Also, because of depressed fire sale prices and transactional costs incurred by the bank experiencing the run, such runs cause wealth transfers from banks to asset purchasers and service providers that might be seen as unfair. See *supra* note 27. Such wealth transfers can eventually lead to "real" insolvency of the bank experiencing the run.

³² Running depositors could make other types of investments as well, but those would have a similar effect of getting the funds back into the economy. For example, if running depositors tended to invest in corporate securities, commercial bank debt might decline, or the corporate cost of capital might decline to the point that corporations find it profitable to borrow beyond their current needs and increase their bank deposits or other investments.

Some running depositors might decide that the costs of identifying an alternative investment are too great and that they should therefore spend the withdrawn funds on increased consumption. This would decrease funds available for capital investment. However, the extent of such increased consumption is not likely to be great since the depositor originally earmarked the withdrawn funds for savings rather than consumption.

³³ "Mattress stuffing" is an informal term used to describe a system-wide run to currency. Where depositors run to currency or consumption, deposit insurance is unlikely to thwart the run in any event. Since running depositors prefer consumption or currency to government securities, they may also prefer these investments to government-insured bank deposits. It is possible (though unlikely) that this will not be

credit to, or buy assets of the bank experiencing the run. If so, transactional costs could be quite low and fire-sale losses almost nonexistent. Thus, the argument goes, if depositors run to other banks or other non-currency investments, and if banks and the government have good information and behave rationally, bank runs probably do not seriously threaten either particular institutions or the system as a whole.³⁴

Both the traditional theory and the anti-regulatory response have something to offer, but both are also somewhat off the mark. The traditional theory has identified an important information defect that justifies regulation, but is overstated in concluding that this defect will necessarily lead to bank runs that spiral out of control and lead to total system-wide economic collapse rather than simply resulting in allocational inefficiencies which may still justify regulation. Conversely, the anti-regulatory response offers a valid criticism of the traditional theory, but overlooks an important point. Even though running depositors may place their funds someplace else in the economy, thereby thwarting a total macro-economic breakdown, they have by definition placed their funds someplace other than they would have had they had perfect information. Thus, misallocation of resources is clearly present, and regulation may be justified.

My other criticism of the traditional theory is that it is somewhat lacking in coherence, since it identifies bank runs as a justification for deposit insurance and then justifies hands-on bank regulation as necessary to protect the government's interests as deposit guarantor. Certainly, deposit insurance does create an additional need for hands-on regulation. However, in my view, a more coherent theory would first identify the market defect that justifies regulation, and then design a regulatory scheme that addresses that defect, explaining the role that deposit insurance (or, for that matter, any other element) plays in that design. Given the focus of this article, the theory offered in the next section seeks to identify a market defect that justifies regulation built around deposit insurance.

B. Inadequate Information: A Mainstream Theory

1. Restating the Information Problem

There is no question that banks cannot function effectively in an unregulated environment. Clearly a market defect exists, and clearly that defect is an informational one. The banking industry is characterized by enormous barriers

true, since government securities are not completely fungible with insured bank deposits, being different in term, denomination, and collateral services provided by the issuer.

³⁴Kaufman, *supra* note 10, at 10-15, 25. Bert Ely explores the tendency to run to currency during deflationary periods in Ely, *supra* note 25. When deflation is occurring, the zero percent yield of currency is a positive economic rate of return which may in fact be higher than the return on other investments, so that currency becomes more attractive.

to effective depositor monitoring. Depositors will have great difficulty determining whether a bank's portfolio actually contains the degree of risk for which they are bargaining. Depositors might try to bargain with institutions for the level of risk they desire: If depositors want a risk-free investment, they will accept a risk-free rate of return.³⁵ However, they might find that after the transaction is complete, they have absolutely no idea whether the investment sold to them truly contains the level of risk it has been represented to contain. Furthermore, even if the portfolio could be effectively assessed before the depositor and bank contract for a particular rate of return, without ongoing monitoring, the bank will have strong incentives to remove shareholder capital or increase the riskiness of the portfolio.³⁶

Essentially, this market imperfection means that the market will tend to force excess risk on depositors. Depositors will have difficulty evaluating the risk they are assuming by placing their funds with the bank, the market will encourage the bank to subsequently increase that risk without compensating the depositor, and information barriers will prevent depositors from effectively counteracting the bank's attempts to do so. The information problem with banks is no different from informational problems in other markets, such as legal or medical services, drug manufacturing, or securities, which prevent goods from being optimally priced so that the market will insure the efficient allocation of those goods.³⁷

³⁵Depositors will actually accept a slightly lower rate of return because of the utility they derive from collateral services such as check-writing privileges.

³⁶As shown earlier, removing shareholder capital not only increases the risk of the depositor's investment but actually transfers some of its risk-unadjusted expected value to shareholders. See *supra* note 20 and accompanying text.

The problems confronting depositors also confront other unsecured creditors to some degree. See *supra* note 13. Corporate bondholders are generally not protected against distributions to shareholders until the corporation is insolvent (unless such protection is contracted for). See, e.g., REV. MODEL BUSINESS CORP. ACT § 6.40 (1984). Ordinary unsecured creditors are usually not protected by fraudulent transfer law or bankruptcy preference law until a debtor is insolvent. See, e.g., UNIFORM FRAUDULENT CONVEYANCES ACT (1918); UNIFORM FRAUDULENT TRANSFER ACT (1984); 11 U.S.C. § 544(b) (1988) (enforcement of state fraudulent transfer law by bankruptcy trustee); 11 U.S.C. § 548 (1988) (bankruptcy fraudulent transfer law); 11 U.S.C. § 547 (1988) (bankruptcy preference law). Such creditors may be better able to monitor and contractually constrain debtor activity than bank depositors, or they may seek "security": a prioritized claim on a specific asset of the debtor for satisfaction of the secured debt. See generally U.C.C. art. 9 (1989). Bond indentures are similar.

³⁷This problem occurs regardless of what risk level depositors desire. Whatever that risk level is, accounts may be riskier than depositors realize and the bank will later try to move the risk level even higher. Notice, however, that the risk level desired by less wealthy depositors is likely to be quite low. Individuals have a fairly inelastic demand for the features which prevent bank deposits from being fungible with other debt instruments: they need a certain amount of funds in demand accounts, preferably with check-writing privileges and penny denominations. Whatever this inelastic demand is, the poorer an individual is, the greater the percentage of total wealth that such demand will represent. (In other words, wealthier individuals keep a smaller percentage of their total wealth in checking and savings accounts than do less wealthy individuals.) These

By identifying information problems as the theoretical basis for imposing regulation, a truly coherent theory can be developed which accommodates traditional arguments for bank regulation. The information defect is the same as that identified in the bank run theory, but my theory asserts that imperfect information leads to inefficient allocation of resources even where bank runs do not occur. The concern for the role that banks and the payments system play in the macro-economy is consistent with my theory because the need for safe demand deposits and a check-processing system are factors influencing societal demand for a given product (bank deposits) which information problems prevent from being efficiently delivered.

Additionally, by focusing on inadequate information, bank regulation can be premised on less controversial grounds and theoretical discussion can proceed to meaningful analysis of other issues. Indeed, Supreme Court Justice Stephen Breyer has called inadequate information the "classic rationale" for regulation, and he observes that criticisms of information-based regulatory schemes do not generally dispute that inadequate information justifies regulation but rather are concerned with whether an information defect actually exists and whether the proffered regulatory solution addresses the problem in a cost-effective manner.³⁸

In the context of deposit insurance, anti-regulatory criticisms are more likely to be of the second type; that is, opponents of deposit insurance may concede that information barriers are present, and perhaps even that some regulation is justified, but opponents will argue that deposit insurance is not necessary to correct the informational problems and that it causes more problems than it solves. There will never be universal consensus about whether deposit insurance efficiently corrects informational problems, but a plausible information-based justification for deposit insurance can be made. A closer examination of regulatory responses to information barriers is required to develop this point.

2. Regulatory Responses to Information Barriers: A Closer Look

Under my theory, information defects with respect to given markets fall into three broad classifications. The first type is information that is not readily obtainable but, once obtained, is easy to understand. A good example of this type of information defect occurs with respect to pharmaceuticals. While the consumer faces enormous barriers to gathering information about the efficacy and side effects of a given drug, there is little difficulty in processing that information once obtained. Therefore, regulatory approval procedures and labeling requirements are sufficient regulation in this context; once consumers have reliable information that the drug does indeed offer a cure but has certain

less wealthy depositors are likely to be highly risk-averse with respect to the funds in deposit accounts.

³⁸BREYER, *supra* note 5, at 26-28.

side effects (for example, makes users see green spots before their eyes), they can make their own decision as to whether the cure is worse than the disease.

The second type of informational defect involves information which is both difficult to obtain and difficult to process once obtained, but which can be processed by others whose actions will be reflected in the market in question. The quintessential example of regulation aimed at this type of information defect is securities regulation. The typical investor can neither individually obtain the type of information required to be contained in a registration statement or other securities document nor process that information in any meaningful way. However, since all securities of a given issue are fungible and traded on an active market, market professionals will trade the securities to their optimal price and other investors can purchase equivalent securities at the same price.

The information defect present with respect to bank deposits is of the third type. Information with respect to the capitalization and other financial aspects of a given bank is difficult to obtain and is incomprehensible to the average depositor. Further, while the bank will have some sophisticated depositors such as institutional depositors, there is no active market to guarantee that other depositors will benefit from their expertise. Indeed, even if regulation were to require all deposits to be offered on the same terms, there is no guarantee that individual and institutional deposits are similar enough to be considered fungible; at the very least, denomination will vary considerably.

This information defect present in banking justifies going beyond disclosure to hands-on regulation at the least, and indeed to deposit insurance as well. Hands-on regulation can be effective in assuring that bank deposits offer the level of risk that depositors want, but it may be ineffective in communicating this fact to depositors. Such a condition is not an improvement, since the flow of information to depositors is the goal of bank regulation under my theory. With deposit insurance, depositors know that bank deposits are as secure as government securities. Thus, there is no question that deposit insurance corrects the perceived information problem.³⁹ The question then becomes whether deposit insurance causes more problems than it solves.

III. COSTS OF DEPOSIT INSURANCE: INEFFICIENT ALLOCATION OF RISK ASSUMPTION

The principal cost of imposing regulation built around deposit insurance on the banking industry is inefficient allocation of risk assumption; that is, deposit insurance leads to some risk assumption which would not occur in the free market because the risk premium earned (before subsidization) is less than the

³⁹To develop a point made earlier, deposit insurance essentially assumes that deposits desire zero risk, and that therefore the bank's role in relation to the depositor is to provide for the safekeeping of funds with collateral services. Perfectly priced deposit insurance should place shareholders in the same position as unleveraged investment. See *supra* text accompanying note 14.

disutility incurred from assuming the risk.⁴⁰ This cost can be conveniently illustrated by returning to the hypothetical used earlier in this article.

In that hypothetical, we considered a "leveragor" who borrows money to make an investment which has equal probabilities of paying zero, \$1,000, or \$2,000. We also discussed how the economics of the transaction would vary if the leveragor's obligation to repay the lender were not completely risk-free to the lender.⁴¹ Suppose that the leveragor has only \$500 of personal assets, after collection costs, from which the lender can be paid.⁴² If the leveragor sells a promise to pay \$1,250 secured by the investment being leveraged, the lender will see a two-thirds chance of receiving \$1,250 and a one-third chance of receiving \$500. The lender thus sees an expected value of only \$1,000 and will pay only \$1,000 even if risk-neutral. If the leveragor uses that \$1,000 to buy the investment being leveraged, the leveragor sees a one-third chance of losing \$500,⁴³ a one-third chance of losing \$250, and a one-third chance of gaining \$750. The leveragor would thus see a risk-unadjusted expected value of zero.

When risk aversion is factored in, the investment sells for less than \$1,000. The leveragor thus sees an expected value greater than zero even though none of his or her own money is at stake: the leveragor has earned this premium by assuming risk. Of course, the risk-averse lender will pay less than \$1,000 for the \$1,250 note; because both the leveragor and the lender are assuming risk, the leveragor must pass some of the risk premium on to the lender by making up the difference with personal funds or issuing a note for a larger amount. However, since there is greater variance in the expected return of the investment than in the expected return of the leveragor's debt, the lender is exposed to less risk by buying the debt than by investing directly; the leveragor earns a risk premium by assuming the remaining risk associated with the investment.

⁴⁰An additional cost is that, by reducing the risk of a bank deposit to that of a government security, deposit insurance may actually set deposit risk below that for which banks and depositors would bargain under perfect market conditions. In my view, this is not a particularly significant cost of this form of regulation because the level of risk to which the parties would bargain under perfect conditions is likely to be quite low. This should be particularly true for less wealthy depositors, since demand for debt containing the term, denomination, and collateral service features of bank deposits is fairly inelastic, and therefore such depositors may have a large portion of their assets invested in bank deposits. See *supra* note 37.

⁴¹See *supra* notes 16-23 and accompanying text.

⁴²This could be so either because the leveragor has limited wealth and the option of resorting to bankruptcy, because the leveragor incorporates, or because the leveragor contracts for limited liability in some other way, such as selling non-recourse secured debt.

⁴³The leveragor would actually lose more after covering the lender's collection costs and incurring transactional expenses associated with incorporation or bankruptcy, but this can be ignored for purposes of illustration.

Now suppose that the government guarantees⁴⁴ payment of the leveragor's note without charging any fee for doing so.⁴⁵ The leveragor can now sell a \$1,000 note for \$1,000. If the proceeds are used to buy the investment, the leveragor sees a one-third chance of owing the lender \$500, a one-third chance of receiving nothing, and a one-third chance of receiving \$1,000. Thus, the leveragor sees a risk-unadjusted expected value of \$500, which has been provided by the government gratuitously. The risk level now borne by the leveragor represents the leveragor's share of the risk inherent in the investment, with the government assuming the remaining risk. Since the price of the investment is unchanged, the leveragor captures the entire risk premium.⁴⁶ There is no inherent reason that the lender should demand a higher return on this investment than on any other risk-free investment; however, as the supply of insured loans (that is, bank deposits) begins to exceed demand for risk-free investments, some of the government subsidy will be passed along to the lenders (that is, depositors).

Obviously, there is great inefficiency here. In our first example, the leveragor was assuming risk, an activity for which risk-averse society will pay. The leveragor compared the societal value of avoiding risk--the risk premium the market was willing to pay the leveragor to assume that risk--with the disutility of the risk assumption, and only engaged in the activity if the risk premium was higher than individual disutility. Now, leveragors will engage in inefficient risk-taking so long as the economic loss (risk premium paid minus disutility from assuming risk) is less than the value of the government subsidy that comes with each leveraged investment.⁴⁷

⁴⁴"Deposit insurance" is, economically speaking, the government guarantee of a private debt. See U.C.C. § 3-416 (1989). The U.C.C. definition of "guarantor" perfectly describes the role of the federal "insurer." While I am not particularly bothered by the insurance terminology associated with this area of the law, in this article, I will sometimes describe the role of the federal insurer as that of guarantor.

⁴⁵In fact, this is not so different from the current system of deposit insurance: "de jure" insurance is provided up to \$100,000 per account but depositors can place funds in multiple accounts; the definition of deposit has been broadly construed to expand de jure insurance; "de facto" coverage of uninsured deposits has become the rule rather than the exception; and "premiums" have traditionally been uniformly set (and probably too low in any event). See Klausner, *supra* note 6, at 755; Melanie S. Tammen, *The Savings and Loan Crisis: Which Train Derailed--Deregulation or Deposit Insurance?*, 6 J. L. & POL. 311 (1990).

⁴⁶Thus, the guarantee represents a subsidy to the bank to the extent its value exceeds the price paid for the guarantee. Economist Robert Merton has applied Black-Scholes option pricing theory to value deposit insurance. Robert Merton, *An Analytic Derivation of the Cost of Deposit Insurance and Loan Guarantees: An Application of Modern Option Pricing Theory*, 3 J. BANKING & FIN. 3 (1977); see Fischer Black & Myron Scholes, *The Pricing of Options & Corporate Liabilities*, 81 J. POL. ECON. 637 (May/June 1973).

⁴⁷This inefficiency will lead to bank failures because the subsidy is captured by assembling risky portfolios and keeping the profits if the upside materializes and using limited liability to walk away if the downside materializes. For a discussion of other factors contributing to increasing bank failures, see Jonathan R. Macey & Geoffrey P.

Even if the government charges a fee for its guaranty of the depositor's claim against the institution, the problem remains so long as a single fee is charged without regard to the riskiness of a particular institution's investment portfolio, as has traditionally been the case with deposit insurance in the United States.⁴⁸ If the bank increases the riskiness of its portfolio or decreases its capitalization, the deposit insurance will be underpriced, and the problem will resurface. Furthermore, the subsidy now comes not only from taxpayers via the government but also from any institutions who choose to operate at lower levels of risk.

Commentators on deposit insurance describe this problem as one of "moral hazard," aptly borrowing an economic theory often applied to insurance and insureds.⁴⁹ Moral hazard theory posits that insurance will introduce skewed incentives which will cause the insured to take action which increases the level of risk on the insurer. For example, car owners with zero-deductible comprehensive insurance may tend to leave their cars unlocked more often than they would if they bore the risk of their cars being stolen because they will capture all the utility from saving time but will see no cost of any theft.⁵⁰ Moral hazard is present with deposit insurance because banks which increase the riskiness of their portfolio will capture all upside profits while bearing only part of the downside losses: The bank's shareholders still enjoy limited liability, and depositors will not demand an increased return because of the

Miller, *America's Banking System: The Origins and Future of the Current Crisis*, 69 WASH. U. L.Q. 769 (1991).

⁴⁸See 12 U.S.C. § 1817 (1988).

⁴⁹For example, George Kaufman identifies three types of "perverse incentives from insurance": the "moral hazard" problem of depositors who do not monitor institutional portfolios and charge appropriate risk premiums, the resulting effect of inappropriately low capital costs on institutional risk-taking, and the amplification of these problems where the safety of insured accounts delays the closure and liquidation or reorganization of failing institutions. Kaufman, *supra* note 10, at 23-26. See also HELEN A. GARTEN, *WHY BANK REGULATION FAILED: DESIGNING A BANK REGULATORY STRATEGY FOR THE 1990s* 159-61 (1991); Klausner, *supra* note 6, at 712-13; Krishna G. Mantripragada, *Depositors as a Source of Market Discipline*, 9 YALE J. ON REG. 543, 548-49 (1992); Geoffrey P. Miller, *Anatomy of a Disaster: Why Bank Regulation Failed*, 86 NW. U. L. REV. 742, 750 (1992) (reviewing HELEN E. GARTEN, *WHY BANK REGULATION FAILED* (1991)).

⁵⁰See COOTER & ULEN, *supra* note 22, at 65-66. A closely related problem is "adverse selection," wherein insurance that is uniformly priced is only purchased by poor risks to whom it is underpriced and is not purchased by good risks to whom it is overpriced. *Id.* at 66-67. Adverse selection does not really apply to deposit insurance because, at least under current law, banks engaging in less risky activity cannot simply forego deposit insurance coverage.

As anyone who has purchased insurance knows, insurers also use deductibles, co-payments, variable premiums, and policy limits to counteract the problems of moral hazard and adverse selection, and these practices are obviously instructive in designing an effective system of deposit insurance. These and other methods of coping with moral hazard will be considered in the next section of this article.

presence of deposit insurance. This behavior increases the level of risk borne by the government.

Thus, there is a real economic cost of deposit insurance, in that deposit insurance changes the behavior of market participants such that risk is not optimally allocated. In designing an effective system of deposit insurance the real economic cost of deposit insurance must be contained and managed.

IV. COPING WITH THE COSTS OF DEPOSIT INSURANCE

The deposit insurance crisis⁵¹ has stimulated considerable academic discussion, and numerous solutions to the problems caused by deposit insurance have been suggested and will be discussed in this section of this article. My purpose here is not to offer completely new solutions but rather to offer a new framework for incorporating existing proposals into a comprehensive plan for reform. Under this framework, solutions to the moral hazard problem caused by deposit insurance are broadly grouped under the following theories: "hands-on," "variable premium," "market-based portfolio monitoring," "regulatory restraint," and "segregation."

A. Hands-On Theory

Hands-on theory posits that the government, as insurer, should protect its interests by forcing insured banks to maintain their portfolios at a given level of risk which is appropriate to the cost of deposit insurance. Hands-on theory lies behind current law restrictions on banking activities and organizational structures. Whether these restrictions effectively serve hands-on theory is debatable.⁵² Hands-on theory also underlies bank capitalization⁵³ and

⁵¹ See generally Symposium, *supra* note 2; Douglas, *supra* note 9; Schumer & Graham, *supra* note 9.

⁵² Within any category of investment activity, there will be specific investments of greatly varying risk. Moreover, such restrictions actually interfere with optimal diversification, which is essential to avoiding wasteful risk, the assumption of which serves no useful economic function. Modern portfolio theory distinguishes between industry-specific or "alpha" risk and market-associated or "beta" risk. Essentially, alpha risk can be diversified away while beta risk cannot. For example, an investment in a company that will profit from war can be combined with an investment in a company that will profit from peace. Thus, an investor will receive no risk premium for assuming the risk of war because diversified investors will purchase the investment without demanding a risk premium. However, an investor cannot diversify away the risk that the market as a whole will rise or decline. Even after a portfolio is so diversified as to completely eliminate alpha risk, it will tend to follow market fluctuations with swings that are narrower than, wider than, or equal to the swings of the market. The portfolio's level of beta risk is associated with this tendency. For a more detailed explanation, see John Lintner, *Security Prices, Risk, and Maximal Gains from Diversification*, J. FIN. 587-615 (Dec. 1965); Harry M. Markowitz, *Portfolio Selection*, J. FIN. 77-91 (Mar. 1952); William F. Sharpe, *Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk*, J. FIN. 425-42 (Sept. 1964).

⁵³ In an interesting variation on capital requirement theory, Klausner observes that since the value of a bank's charter is forfeited upon insolvency and resolution, increasing

accounting requirements, as well as the pervasive system of hands-on regulation which the government uses to implement regulatory requirements.

Hands-on solutions, by themselves, are probably the least promising avenue for dealing with the costs of deposit insurance. Under a pure hands-on approach, the government is faced with the formidable task of monitoring all aspects of all bank operations as well as the further task of assimilating the information obtained in some meaningful way that relates to the cost at which deposit insurance will be priced.⁵⁴ Nonetheless, hands-on theory indisputably has some value. After all, ordinary unsecured creditors, who are similarly situated with the government as a deposit insurer, protect themselves by imposing contractual constraints on debtor activity and monitoring debtors accordingly.⁵⁵ Hands-on regulation is most effective as a complement to other methods of dealing with deposit insurance moral hazard. This point will be further developed as other solutions are examined.

B. Variable Premium Theory

Variable premium theory borrows from "traditional" moral hazard theory, which posits that moral hazard can be counteracted by pricing insurance premiums differently for different insureds, depending on the risk to the insurer which each insured presents.⁵⁶ Variable premium solutions have the added appeal of equity, since uniform premiums cause less risky banks to subsidize riskier ones. Variable premium theory appears to be favored by lawmakers; new legislation authorizes the development and implementation of risk-based deposit insurance premiums.⁵⁷

While I believe that variable deposit insurance premiums are appropriate, I am somewhat troubled by this theory's potential to be misunderstood as a panacea which it clearly is not. Indeed, variable premium theory is really a subtle variation of hands-on theory. Even with variable premiums, deposit

the value of the charter has the same effect as increasing the capital that shareholders have at stake. For example, granting banks antitrust exemptions and limiting new entry would have such an effect. Klausner reasons that if the value of bank charters are depressed because of unsound restrictions on activity and organization, removing these restrictions similarly increases the value of bank charters. Klausner, *supra* note 6, at 751-52.

⁵⁴See generally EDWARD J. KANE, *THE GATHERING CRISIS IN FEDERAL DEPOSIT INSURANCE* (1985).

⁵⁵See *supra* note 36.

⁵⁶Other traditional methods which insurers use to counteract moral hazard are deductibles, co-payments, and policy limits. See *supra* note 50. In the case of deposit insurance, these methods should be included in the category of regulatory restraint solutions, as will be shown in a later section of this article. See *infra* notes 60-67 and accompanying text.

⁵⁷FDIC Improvement Act of 1991, § 302(a), 105 Stat. 2236, 2345 (codified at 12 U.S.C. § 1817(b)); see H.R. REP. NO. 330, 102d Cong., 1st Sess. 109, 134-35, reprinted in 1991 U.S.C.A.N. 1901, 1922, 1947-48.

insurance moral hazard cannot be avoided unless the government effectively monitors insured banks and assimilates the information obtained in a meaningful way that relates to the pricing of deposit insurance. The only difference between the two theories is that without variable premiums, the government must force all bank portfolios to one uniform level of risk, while variable premiums allow banks to operate at any level of risk (or within a prescribed range of risk levels) so long as the government can maintain effective data assessment and monitoring.

This difference by itself is enough to make variable premiums preferable to uniform premiums. However, the foregoing analysis reveals that variable premiums cannot work without being complemented by effective implementation of hands-on regulation. This point will be repeated as we turn to other theories for counteracting deposit insurance moral hazard.

C. Market-Based Portfolio Monitoring Theory

Market-based portfolio monitoring theory posits that securities markets can more efficiently evaluate the riskiness of a bank's portfolio than can the government through hands-on regulation. This theory calls for a requirement that all banks over a given size be required to issue publicly traded long-term debt. The federal insurer would then extrapolate the riskiness of the bank's portfolio and the portfolio's corresponding deposit insurance premium from the market prices at which the bank's debt trades. Premiums for smaller banks would be established either by comparison to large banks subject to the debt-issue requirement or through traditional hands-on regulation.⁵⁸

The underlying principles of the market-based portfolio monitoring theory are completely sound because of the general consensus as to the efficiency of securities markets with active trading by large numbers of sophisticated participants, and the high-technology speed with which the actions of those participants are now reflected in the market. The role of market-based portfolio monitoring in a comprehensive proposal for deposit insurance reform is circumscribed not by any theoretical defect, but rather by a proper understanding of exactly what it is that market-based portfolio monitoring achieves.

Since market-based portfolio monitoring is limited to those banks for which a public debt issue is feasible, such monitoring divides the banking industry

⁵⁸Scott, *supra* note 25, at 916, 926. A related concept is suggested by recent legislation which authorizes studying the feasibility of reinsuring some portion of federal deposit insurance privately and pricing federal deposit insurance by evaluating the premiums which the private reinsurers charge. FDIC Improvement Act of 1991, § 302(a), 105 Stat. 2236, 2345 (codified at 12 U.S.C. § 1817(b)(1)(B)). This proposal assumes that the insurance industry can more efficiently assess the riskiness of bank portfolios than can government bureaucracy. This assumption may be valid, but I consider it considerably more controversial than the efficiency of modern, technology-driven securities markets. Thus, I consider market-based monitoring driven by publicly traded bank debt more promising than the reinsurance proposal.

into two spheres: one in which the debt-issue requirement is imposed (large banks), and one in which it is not (small banks).

Market-based portfolio monitoring (like variable premiums, which are of course required to implement market-based monitoring) is essentially a variation of hands-on theory with respect to large banks. This theory does not question the need for effective hands-on regulation; rather, it proposes a modern, high-technology approach to achieving precisely that goal. Moreover, some of the traditional aspects of hands-on regulation remain since the federal insurer must still enforce the debt issue requirement, collect the resulting data, and assimilate it in a meaningful way that relates to the pricing of deposit insurance. Indeed, market-based portfolio monitoring is not incompatible with other aspects of traditional hands-on regulation (such as prohibiting portfolio investments which are deemed too risky and imposing capitalization and accounting requirements), which could be used to contain bank portfolios within a prescribed range of risk levels, while debt-issue monitoring is used in the final stage of pricing deposit insurance.

Market-based portfolio monitoring is a variation of regulatory restraint theory with respect to small banks. Deposit insurance for small banks would be priced without the use of a debt-issue requirement, but the dollar value of deposits for which insurance is so priced would be smaller than is presently the case (because only deposit insurance for small banks would be so priced). Regulatory restraint theory and its premises are discussed in the next section of this article.

Thus, the proper role of market-based portfolio monitoring is as a component of a comprehensive proposal for deposit insurance reform. Market-based portfolio monitoring can be used with variable premiums to improve the quality of hands-on regulation. Effective, "traditional" hands-on regulation is still required to implement market-based monitoring⁵⁹ and to price deposit insurance for banks whose portfolios are not so monitored. Regulatory restraint theory must still be explored since the possibility of regulatory error is not completely eliminated.

D. Regulatory Restraint Theory

Regulatory restraint theory, in its most extreme form, would posit that there should be no deposit insurance because the moral hazard costs of deposit insurance exceeds its benefits. Having discussed this issue earlier in this article, my focus here is on less extreme forms of regulatory restraint theory which do

⁵⁹Both the market-based monitoring and reinsurance proposals, by focusing on the efficiency with which markets, insurers, or the government evaluate information, tend to overlook the government's superior ability to gather information on bank portfolios in the first place, using force of law if necessary. This creates a need to retain traditional hands-on regulatory methods for gathering information on bank portfolios, and for disseminating this information.

not call for the complete elimination of deposit insurance.⁶⁰ Regulatory restraint theory can justify such proposals as reducing the scope of deposit insurance coverage, interpreting existing coverage limits more strictly, and allowing depositors to choose between insured and uninsured deposits.

There has been some degree of failure to recognize regulatory restraint solutions as such. In particular, some commentators have suggested that since insurers manage moral hazard by imposing co-payments, deductibles, and policy limits on insureds, deposit insurance moral hazard can be managed by similarly limiting the coverage of deposit insurance.⁶¹ Of course, the analogy is not perfect. With traditional insurance the insured, who is subject to the deductible, co-payment, or policy limit, is the source of risk, and such coverage limits can therefore be expected to contain the insurer's risk exposure. In contrast, the source of risk to the federal deposit insurer is the bank's portfolio, not the depositor subject to coverage limitations.⁶² Thus, deposit insurance coverage limits can only work by inducing depositors to monitor banks.

Indeed, proponents of coverage limits generally recognize this point, and forthrightly argue that increased depositor monitoring can help solve the deposit insurance crisis.⁶³ Increased depositor monitoring, however, is not an effective approach to dealing with the problems of deposit insurance. The inability of depositors to effectively monitor banks is the justification for deposit insurance and for other components of bank regulation in the first place. If depositors can effectively monitor banks, then the justification for regulation is seriously undermined. Conversely, if deposit insurance or other regulation is necessary, then depositors should not be relied upon to monitor banks.

Nonetheless, I believe that coverage limits have some viability under a regulatory restraint theory. The discussion of each theory in this article shows that it cannot be effectively implemented without some degree of hands-on regulation, and the discussion of hands-on theory posits that hands-on regulation cannot be perfect. Therefore, if deposit insurance will inevitably have some regulatory error costs that will vary with the scope of deposit

⁶⁰One concern of some commentators is that elimination of deposit insurance may not be politically feasible, regardless of the merits of doing so. See, e.g., Scott, *supra* note 25, at 911.

⁶¹Mantripragada, *supra* note 49; Klausner, *supra* note 6, at 753-58.

⁶²This is one point on which the proper characterization of deposit insurance as a guarantee, rather than insurance, is important. See *supra* note 44. Apart from its ability to capture additional subsidy, the bank is not affected by coverage limitations because it always has to pay the depositor if solvent. If the scope of deposit insurance becomes relevant at all, the bank is by definition judgment-proof.

⁶³See Mantripragada, *supra* note 49; Klausner, *supra* note 6, at 753-58. Interestingly, other commentators are less concerned with the ability of depositors to monitor institutions than the ability of capital markets to force bank managers to respond to depositor discipline. See GARTEN, *supra* note 49, at 154-55; Miller, *supra* note 49, at 748-49.

insurance coverage,⁶⁴ it is reasonable to limit the scope of deposit insurance coverage even while implementing strategies for dealing with moral hazard.

Thus, there is some viability to regulatory restraint theory properly understood as such. In particular, it may be advisable to reduce the \$100,000 limit on deposit insurance, and to reduce or eliminate multiple account coverage, pass-through coverage, brokered deposit coverage, and "de facto" coverage.⁶⁵ Indeed, regulatory restraint theory may be gaining legislative support, as Congress has already taken limited steps to curb brokered deposit, pass-through, and de facto coverage.⁶⁶

⁶⁴Here, the distinction between costs associated with implementing deposit insurance and costs associated with the regulatory imperfections of deposit insurance becomes relevant. The costs of implementing deposit insurance may be largely administrative, so that such costs would not necessarily increase proportionally to the dollar value of total insured deposits. On the other hand, costs associated with regulatory imperfections are costs resulting from the fact that the government will never be able to perfectly prevent all banks from maintaining portfolios for which deposit insurance is underpriced. This cost will increase proportionally to the dollar value of insured deposits, taking into account coverage limitations.

⁶⁵Each of these terms describes a slightly different example of an overall tendency of the federal insurer to extend deposit coverage beyond the stated limit of \$100,000 per depositor. Multiple account coverage allows depositors to gain \$100,000 coverage for more than one account in two ways: opening accounts at other banks, or opening accounts at the same bank in another capacity or name (individual, joint, fiduciary, etc.). 12 U.S.C. § 1813(m)(1) (Supp. I 1989); 12 C.F.R. § 330 (1991). Pass-through coverage allows pension plans to obtain coverage up to \$100,000 per beneficiary. Brokered deposit coverage is a type of pass-through coverage which allows deposit brokers to place pools of investor funds in hundreds of different institutions; theoretically, a single investor could obtain coverage for billions of dollars using this technique. "De facto" coverage is coverage for depositors who, by law, are not insured at all. This typically happens when an insolvent bank is considered "too big to fail"; the federal insurer injects enough assets into the institution to cover insured and uninsured deposits and locates an acquirer for the bank in a "purchase and assumption" transaction. For a general discussion of these points, see Klausner, *supra* note 6, at 706-07; Tammen, *supra* note 45. For an interesting discussion of unconventional "assets" which the federal insurer can use to effect a purchase and assumption transaction, see Kane, *supra* note 54, at 54.

⁶⁶FDIC Improvement Act of 1991, §§ 141, 301, 311, 105 Stat. 2236, 2273, 2343, 2363 (codified at 12 U.S.C. §§ 1821(a)(8), 1823(c), 1831f); see H.R. REP. NO. 330, 102d Cong., 1st Sess. 104-05, 109-110, 123-25, 134, 137-39, reprinted in 1991 U.S.C.C.A.N. 1901, 1917-18, 1922-23, 1936-38, 1947, 1950-52. In general, pass-through and brokered deposit coverage are limited to banks which are not "troubled," defined by reference to capital requirements; de facto coverage is still permitted in purchase and assumption transactions but the use of purchase and assumption is limited under least-cost resolution rules.

Somewhere between the realms of hands-on theory and regulatory restraint, and closely related to the problem of de facto coverage, is the proposition that when a bank failure occurs, the federal insurer should protect its interests by closing the institution and resolving the insurer's liability in the least costly manner. Besides elimination of de facto coverage, closing failed institutions promptly and at the lowest cost serves this goal. See Kaufman, *supra* note 10, at 25-36; Scott, *supra* note 25, at 921-27; FDIC Improvement Act of 1991, §§ 131, 141, 105 Stat. 2236, 2253, 2273 (codified at 12 U.S.C. §§ 1823(c), 1831o); H.R. REP. NO. 330, 102d Cong., 1st Sess. 103-05, 120-25, reprinted in

Certain other regulatory restraint proposals are viable as well. In particular, reduction of the \$100,000 limit, while politically unpopular, is advisable. While consumers should be free to decide for themselves what level of risk they desire with respect to invested funds, government securities offer the same risk level as federally insured bank deposits. These securities are not fungible with insured deposits only because of term, denomination, and collateral services such as check-writing privileges. Thus, deposit insurance coverage should be set not by reference to the consumers' need for low-risk investment, but rather by reference to the consumers' need for low-risk investment carrying the particular term, denomination, and collateral services of bank deposits. It would not be unreasonable to significantly reduce the \$100,000 limit, perhaps to \$50,000, in the interest of reducing the regulatory costs⁶⁷ of deposit insurance.

Offering depositors a choice between insured and uninsured deposits may also be an effective means of regulatory restraint reform. The theory developed in this article is that depositors face information barriers in monitoring bank portfolios and capitalization; no paternalistic theory has been developed to posit that depositors face information barriers in determining their own desires and preferences. An uninsured deposit option would not only serve regulatory restraint theory by reducing the dollar value of insured accounts, but it would also increase societal efficiency by allowing depositors to more perfectly implement their true preferences.

In spite of the appeal of some regulatory restraint proposals, however, regulatory restraint does nothing to address the underlying problem of deposit insurance moral hazard. Thus, like hands-on theory, regulatory restraint theory must be viewed as a complement to other methods of reforming deposit insurance. In turn, as shown throughout this article, other reform methods cannot work without effective hands-on regulation, and hands-on regulation is effective only as a complement to other methods. In the next section of this article, this point will be repeated with respect to segregation theory; then the five theories will be merged into a comprehensive proposal for reforming deposit insurance.

E. Segregation Theory

Segregation theory underlies proposals to accept insured deposits only at separate institutions which do not accept uninsured deposits and which maintain portfolios of government securities, or to achieve the same effect

1991 U.S.C.C.A.N. 1901, 1916-18, 1933-38. Kaufman proposes a prompt closure approach in conjunction with regulatory efforts to channel bank portfolios into marketable securities so that portfolio performance can be monitored and prompt closure enforced. For problems with such portfolio requirements, see *infra* note 69. For documentation of past regulatory failure to close failed institutions promptly and at the lowest cost, see Klausner, *supra* note 6, at 760-64.

⁶⁷Here again, I refer to regulatory costs which increase proportionally to the dollar value of insured accounts. See *supra* note 64.

without actually creating separate institutions by imposing portfolio requirements and statutory liens in favor of depositors and the federal insurer. New government securities could be issued to avoid mismatching of term and denomination, that is, simply by placing insured funds directly in the hands of the government.⁶⁸ Segregation theory has considerable appeal, since it would eliminate deposit insurance moral hazard. However, what is particularly interesting about segregation proposals is that, by and large, there has not been a call to nationalize the banking industry. Therefore, the segregation theory proposal that I offer distinguishes segregation as such from complete nationalization, but views the two as components of a single theory.

On examination, segregation does prove to be different from nationalization. As this article has shown, bank deposits are not fungible with government securities because of term, denomination, and collateral services. Segregation and nationalization are indistinguishable in their approach to differences of term and denomination, but segregation leaves collateral services in the private sector while nationalization does not. Additionally, segregation enlists the aid of the private sector in administering bank operations.

Whether segregation is preferable to nationalization will never be a point of universal consensus. The role of the private sector under segregation will appeal to those who believe the private sector is inherently more efficient than government bureaucracy; others will be skeptical of this proposition or will simply feel that segregation so nearly approaches nationalization that it may be more efficient to have the government provide collateral services and administer operations once it is already so heavily involved in the banking business.

Segregation and nationalization still present opportunities for regulatory error if implemented in such a way that deposited funds are channeled into the same types of investments that presently comprise bank portfolios. If the government does this through lending institutions, segregation or nationalization has not achieved anything at all: The government is still exposed to the risk of the lending institution's portfolio and the entire arrangement is indistinguishable from the unreformed deposit insurance system now in place. If the government makes such loans and other investments directly, then problems of credit assessment and market condition evaluations will replace the current problems of bank portfolio monitoring.⁶⁹

⁶⁸Scott, *supra* note 25, at 929. Scott suggests requiring banks which accept insured deposits to invest those deposits in government securities, with a statutory lien in favor of the depositor and federal insurer. He also suggests that deposit insurance, nominally priced to cover administrative costs, could be continued if politically necessary. *Id.* at 921-23, 928-31.

⁶⁹Viewing only the government's interest in protecting its fisc, these problems could be solved by channeling insured funds solely into readily marketable securities. The problem with this approach is that it might not optimally allocate deposited funds, since at least under regulated, imperfect conditions, bank portfolios have traditionally consisted of commercial and real estate loans. I consider marketable security portfolio proposals to be more compatible with the "safekeeping" view of segregated or

In this case, segregation or nationalization must be premised on a belief that the government could directly enter the banking business, including bank lending activities, more effectively than it can presently monitor bank portfolios. If this is true, then segregation or nationalization will require sound regulatory management which will be functionally similar to the effective hands-on regulation required under approaches to deposit insurance reform. Further, regulatory restraint theory will continue to have viability since reduction of the dollar value of insured accounts will reduce the extent to which the government is in the banking business (uninsured accounts being accepted by traditional private sector banking concerns).

On the other hand, deposited funds might not be rechanneled into these types of investments. This would be consistent with the theory developed in this article⁷⁰ and seemingly reflected in the present deposit insurance scheme, that is, if the role of banks is to transfer all risk to shareholders and leave none with depositors, then depositors are essentially looking for institutions which specialize in the safekeeping of funds and offer collateral services. In this case, regulatory restraint approaches, and in particular an uninsured deposit option, will be necessary to prevent the unnecessary removal of funds from markets in which bank portfolios presently participate.

Therefore, segregation theory, including the option of nationalizing the banking industry, is properly seen as an alternative to variable premiums and market-based portfolio monitoring, with effective hands-on regulation and appropriate regulatory restraints still required for effective implementation. With the observations thus developed in this part of the article, all of the above theories can now be integrated into a comprehensive approach to deposit insurance reform.

V. CONCLUSION: A COMPREHENSIVE PROPOSAL FOR REFORM

As the preceding part of this article has shown, segregation or nationalization of the banking industry obviates the need to reform the deposit insurance system in its present form (although it does not obviate the need for effective bank regulation). Thus, designers of deposit insurance reform are faced with two mutually exclusive alternatives: retaining the overall architecture of the existing deposit insurance system, or abandoning that architecture in favor of segregating or nationalizing banks which accept insured deposits.

My proposal for deposit insurance reform first calls for a political choice between these two alternatives. I consciously use the term "political" because

nationalized banks discussed below, under which insured deposit funds would be consciously removed from traditional banking markets, which would be served by banks accepting uninsured deposits.

⁷⁰See *supra* text accompanying note 14.

the magnitude of the deposit insurance crisis⁷¹ and the urgent need for reform have become such that the political process reasonably expects to participate in the reform process, is entitled to do so, and has in fact already begun its active participation.⁷² I view this choice as properly a political one on which a general consensus must be achieved, based on an understanding of the tools available to regulators for effectively implementing either choice. For this reason, I offer my thoughts on the best means of implementing either choice.

If the present system of deposit insurance is retained, market-based portfolio monitoring should be combined with variable, risk-based deposit insurance premiums. This approach serves to draw on technology-driven securities markets to properly price deposit insurance in order to effectively implement, in a modern method, the hands-on regulation required to counteract deposit insurance moral hazard. Effective, "traditional" hands-on regulation is still necessary to obtain portfolio information and to disseminate the information in securities markets, to assess market-based data on bank portfolios and translate that data into specific deposit insurance pricing decisions, and to monitor banks which are too small for market-based monitoring. Traditional hands-on regulation may also be used to force banks to operate within a prescribed range of levels, with market-based monitoring used in the final stage of deposit insurance pricing.

Regulatory restraint theory remains viable because hands-on regulation continues to play an important role under this approach. This theory posits that the possibility of regulatory error will mean that some costs of deposit insurance will increase proportionally to the dollar value of insured accounts, and that therefore, deposit insurance coverage should be limited. Coverage can be eliminated by changing existing rules and practices with respect to multiple account coverage, pass-through coverage, brokered deposit coverage, and de facto coverage, and by striving for least-cost resolution of failed institutions. Serious consideration should also be given to a significant reduction of the \$100,000 deposit insurance limitation, perhaps in conjunction with a public education program relating to alternative investments in government securities which are available where the specific term, denomination, and collateral services of insured bank deposits is not required. Finally, consideration should be given to allowing depositors to forego deposit insurance if they choose.

As this article has explained, a decision to segregate or nationalize banks which accept insured deposits without a commitment to removed deposited funds from traditional bank investment markets must be premised on the belief that the government can directly enter the banking industry, including bank lending activities, more effectively than it can presently monitor bank portfolios. The government's involvement in banking activities will call for

⁷¹ See generally Symposium, *supra* note 2, Douglas, *supra* note 9; Schumer & Graham, *supra* note 9.

⁷² See, e.g., FDIC Improvement Act of 1991, 105 Stat. 2236.

effective hands-on regulation even more urgently than the proposed reformed deposit insurance system. In turn, this will increase the possibility for regulatory error, and thus, the need for regulatory restraint. In a system of nationalized or segregated insured banks, even greater consideration should be given to the coverage limitations, including uninsured account options, suggested above, and the scope of such limitation should be even broader.

Alternatively, segregation or nationalization could be pursued in a form that views accepting insured deposits as providing for the safekeeping of funds with collateral services. Under this approach, regulatory restraint approaches, including uninsured account options, remain important in preventing the unnecessary removal of funds from markets in which bank portfolios presently participate.

Just as the need for hands-on regulation and the ensuing possibility of regulatory error create a need for regulatory restraint, they create a need for some intangible regulatory element which can only be described as "good regulation." This calls for cooperation of government, academia, and the private sector both in designing effective deposit insurance reform and in working towards its effective implementation. It also calls for the highest caliber of professional regulators during the coming reform process and under the new regime. In this spirit, the theoretical framework developed in this article is offered as a means of understanding the underlying justifications for deposit insurance, the moral hazard cost of such regulation, and effective strategies for containing that cost.

